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P5858a PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number:	6,628,037
Issued:	September 30, 2003
Name of Patentee:	Kinya Matsuzawa
Serial No.:	10/002,033
Filing Date:	November 15, 2001
Title of Invention:	Power Generator, Electronic Device Using the Same, Method of Setting Plate Thickness in a Magnetic Circuit in Electronically Controlled Timepiece and Power Generator

CERTIFICATE OF MAILING

I hereby certify that this correspondence, and the documents attached hereto, are being deposited with the United States Postal Service as "First Class" mail with sufficient postage in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this date.

Date: June 30, 2005

Ann F. George

REQUEST FOR ADDITIONAL CERTIFICATE OF CORRECTION OF PATENT FOR PTO MISTAKE (37 CFR §1.322(a))

Attention Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

It is noted that errors appear in this patent of a clerical, typographical or minor nature or character, as more fully described below, due to a mistake by the Patent and Trademark Office. This mistake was not corrected by the Certificate of Correction dated April 19, 2005.

Attached hereto in duplicate is Form PTO-1050 with at least one copy being suitable for printing.

The exact page and line number where the error occurs in the patent are:

Column 22, after line 35, please insert

--where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, $\rho(\Omega \cdot m)$ represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor for driving a time display by the electric energy generated by the power generator.--

Patent Claim 17 corresponds to application Claim 15 (Exhibit A). Please see the Preliminary Amendment received by the Patent Office on June 2, 2002, especially pages 2 and 3 (pages 1-3 included as Exhibit B).

Patentee's undersigned attorney may be reached at the telephone number listed below. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

Mark P. Watson
Registration No. 31,448

Please address all correspondence to:
Epson Research and Development, Inc.
150 River Oaks Parkway, Suite 225
San Jose, CA 95134
Customer No. 20178
Phone: (408) 952-6124
Facsimile: (408) 954-9058

Date: June 30, 2005

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.: 6,628,037
DATED: September 30, 2003
INVENTOR(S): Kinya Matsuzawa

It is certified that an error appears in the above identified patent and that said Letters Patent is hereby corrected as shown below:

Column 22, after line 35, please insert

--where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, ρ ($\Omega \cdot m$) represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor for driving a time display by the electric energy generated by the power generator.--

MAILING ADDRESS OF SENDER:

Epson Research and Development, Inc.
Intellectual Property Department
150 River Oaks Parkway, Suite 225
San Jose, CA 95134
Customer No. 20178

PATENT NO. 6,628,037

FORM PTO 1050

JUL 18 2005

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.: 6,628,037
DATED: September 30, 2003
INVENTOR(S): Kinya Matsuzawa

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Column 22, after line 35, please insert

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MAILING ADDRESS OF SENDER:

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Intellectual Property Department
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PATENT NO. 6,628,037

FORM PTO 1050

JUL 18 2005

Issue Classification	Application No.	Applicant(s)	
	10/002,033	MATSUZAWA, KINYA	
	Examiner	Art Unit	
	Burton S. Mullins	2834	

ISSUE CLASSIFICATION

ORIGINAL		CROSS REFERENCE(S)	
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)
310	254	310	216

INTERNATIONAL CLASSIFICATION	
H04K	001/12
	/
	/
	/
	/

n/a (Assistant Examiner) (Date)	Burton Mullins 18 March 2003 (Primary Examiner) (Date)	Total Claims Allowed: 28	
		O.G. Print Claim(s): 1	O.G. Print Fig: 2

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1		31		61		91		121		151		181
2	2		32		62		92		122		152		182
3	3		33		63		93		123		153		183
4	4		34		64		94		124		154		184
5	5		35		65		95		125		155		185
8	6		36		66		96		126		156		186
9	7		37		67		97		127		157		187
10	8		38		68		98		128		158		188
11	9		39		69		99		129		159		189
12	10		40		70		100		130		160		190
13	11		41		71		101		131		161		191
6	12		42		72		102		132		162		192
7	13		43		73		103		133		163		193
16	14		44		74		104		134		164		194
17	15		45		75		105		135		165		195
18	16		46		76		106		136		166		196
19	17		47		77		107		137		167		197
20	18		48		78		108		138		168		198
21	19		49		79		109		139		169		199
22	20		50		80		110		140		170		200
23	21		51		81		111		141		171		201
24	22		52		82		112		142		172		202
25	23		53		83		113		143		173		203
14	24		54		84		114		144		174		204
15	25		55		85		115		145		175		205
27	26		56		86		116		146		176		206
28	27		57		87		117		147		177		207
26	28		58		88		118		148		178		208
	29		59		89		119		149		179		209
	30		60		90		120		150		180		210

EXHIBIT tabbies A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Kinya Matsuzawa	Group Art Unit:	2834
Serial No.:	10/002,033	Examiner:	Not Yet Assigned
Filed:	November 15, 2001		
Title:	Power Generator, Electronic Device Using The Same, Method Of Setting Plate Thickness In A Magnetic Circuit In Electronically Controlled Timepiece And Power Generator		

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 on this date.

Date: May 13, 2002

Ann F. George

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Preliminary to examination please amend the above identified application as follows:

IN THE CLAIMS

Please substitute the following clean **amended claims 12, 14, 15 and 23** for the pending claims with the same number. Marked-up versions of the amended claims follow the "Remarks" section of this amendment.

12. (Amended) The power generator according to claim 1, wherein at least one of the stator and the magnetic core is made of a single layer or a lamination of the soft magnetic material of the plate thickness d.

14. (Amended) An electronic device, comprising:

a power generator comprising:

a rotor having a permanent magnet;

EXHIBIT tabbies B

a stator and a magnetic core of soft magnetic material constituting a magnetic circuit; and

a coil wound around the magnetic core,

wherein the plate thickness d (m) of the soft magnetic material constituting at least one of the stator and the magnetic core is set at a value represented by the following formula of

$$d = \sqrt{\frac{k_h}{k_e}\rho} \cdot f^{-0.375} B_m^{-0.175} \qquad (1)$$

where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, $\rho(\Omega \cdot m)$ represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor actuated by the electric energy generated by the power generator.

15. (Amended) An electronically controlled timepiece, comprising:

a power generator comprising:

a rotor having a permanent magnet;

a stator and a magnetic core of soft magnetic material constituting a magnetic circuit; and

a coil wound around the magnetic core,

wherein the plate thickness d (m) of the soft magnetic material constituting at least one of the stator and the magnetic core is set at a value represented by the following formula of

$$d = \sqrt{\frac{k_h}{k_e}\rho} \cdot f^{-0.375} B_m^{-0.175} \qquad (1)$$

where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, $\rho(\Omega m)$ represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor for driving a time display by the electric energy generated by the power generator.

23. (Amended) The method of setting plate thickness in a magnetic circuit in a power generator according to claim 21,

wherein the soft magnetic material constituting at least one of the stator and the magnetic core has a lamination structure and the respective layers forming the lamination structure have a minimum thickness of not less than 0.05mm.

Please add the following **new claims 24 to 28:**

24. (New) The power generator according to claim 6, wherein at least one of the stator and the magnetic core is made of a single layer or a lamination of the soft magnetic material of the plate thickness d.

25. (New) The power generator according to claim 24, wherein the soft magnetic material constituting at least one of the stator and the magnetic core has a lamination structure, and the respective layers forming the lamination structure have a minimum thickness of not less than 0.05mm.

26. (New) An electronic device, comprising:

a power generator comprising:

a rotor having a permanent magnet;

a stator and a magnetic core of soft magnetic material constituting a magnetic circuit; and

a coil wound around the magnetic core,

wherein the plate thickness d (m) of the soft magnetic material constituting at least one of the stator and the magnetic core is set within a plate